

REMARKS

Claims 1-8, 10-14, and 16-20 are pending in the present case. Claims 1, 7, 10, 14, and 16 are amended herein. Applicants respectfully request reconsideration in view of the above amendments to the present application, and the arguments set forth below. No new matter is added herein.

In the present rejection, the Examiner states that Applicants' arguments of September 23, 2003 are moot in view of US Patent No. 5,532,715 to Bates, et al. (Bates) and modifies the references cited in the rejection of June 19, 2003 (hereinafter, the previous rejection) to suggest a software graphical user interface, wherein said graphical user interface comprises an interactive slide bar, as recited in Claims 1, 10, and 15 (and their respective dependent claims). Applicants respectfully respond to this modification below, discussing the present rejection under 35 USC 102 and 35 USC 103, below.

REJECTIONS OF CLAIMS UNDER 35 USC 112

Claims 1 and 7 are rejected under 35 U.S.C. 112 for insufficiency of antecedent basis. Claims 1 and 7 are amended herein. Specifically, Claim 1 is rejected on account of its element "the ambient temperature."

As amended herein, Claim 1 reads as follows, with underlining added for emphasis:

1. In an electronic device having a display and a processor, a method for providing contrast adjustment for said display comprising:
  - a) receiving a contrast setting that is user defined via a software graphical user interface, wherein said graphical user interface comprises an interactive slide bar;

b) an ambient temperature of an environment of said display over time, said ambient temperature characterizing said environment;

c) sampling said signals and converting said signals into current temperature values;

d) based on said contrast setting and said current temperature values, computing a contrast adjustment voltage signal for maintaining said contrast setting, wherein said steps c) and d) are performed by said processor; and

e) automatically adjusting contrast of said display by applying said contrast adjustment voltage signal to said display.

As amended herein, the article "the" preceding the phrase "ambient temperature" is replaced with the article --an--. As this is the first appearance of this phrase in Claim 1, Applicants respectfully assert that this phrase comports with 35 USC 112.

Claims 10 and 16 are amended herein after a similar fashion.

Specifically, Claim 7 is rejected on account of its element "said display screen." As amended herein, Claim 7 reads as follows, with underlining added for emphasis:

7. The method as recited in Claim 1 wherein said display comprises a liquid crystal display (LCD) display screen.

As amended herein, the word "screen" is deleted from after the word *display* and before the word *comprises*. Applicants respectfully point out that the word "display" is first used in Claim 1, upon which Claim 7 depends. Applicants thus respectfully assert that the term "display" has antecedent basis in Claim 1, and thus comports with 35 USC 112.

REJECTIONS OF THE CLAIMS UNDER 35 USC 102

In the present rejection, Claims 1-2, 5-6, 10, and 12-13 are rejected under 35 USC 102 as anticipated by US Patent 5,532,715 to Bates (Bates). Applicants have reviewed the reference cited and respectfully assert that Bates does not anticipate or suggest embodiments of the present invention recited in Claims 1-2, 5-6, 10, and 12-13 for the following rationale.

As Applicants understand the reference, Bates teaches a visually aging scroll bar on the window of a computer display with a slider that indicates the relative positioning of the window of a document, such as a data, image, audio, or text file, or a spreadsheet. Bates, Abstract. Bates expressly states that the principle object of the invention taught therein is to enhance the operation of the scroll bar. Id. at C. 2, ll. 37-38. Bates expressly states that other objects of the invention taught therein are to provide an enhanced scroll bar to allow users to quickly find a specific portion of the document (Id. at ll. 39-41) and to ease finding a specific portion of the document that has been viewed frequently or for long periods of time. Id. at ll. 42-45. Importantly, Bates fails to teach or suggest contrast adjustment in response to measured environmental temperatures.

Bates uses a "visually aging scrollbar," taught therein as associated with the window displayed by the computer, which has "a slider to indicate relative positioning in the window of the document." Id. at ll. 40-54. Bates goes on to teach that the computer monitors the position of the scroll bar slider, and after a sampling period elapses, creates a first region matching the current scroll bar position, the visual appearance of the corresponding region is "determined by a predetermined region heating rate." Id. at ll. 53-60. However, all references therein to "temperature" or "heat" are merely symbolic and are meant to symbolize the frequency in which the

document passage is encountered by the user, and has nothing to do with ambient environmental temperature.

According to Bates, after a second sampling period elapses, Bates teaches checking the scroll bar slider position and, where its current position matches the first region, changes the visual appearance of the first region, which "*symbolically* 'warms up'" and incrementally changes the appearance "for as long as the current slider position matches the first region, up until a maximum region *symbolic* 'temperature' is reached. Id. at C. 2, l. 61-C.3, l. 3; italics added herein for emphasis; internal quotation marks in original as normal quotation marks.

Applicants respectfully point out that the temperature Bates teaches is merely symbolic; it does not apply to a physical environmental operating temperature. What Bates teaches as "temperature" and "heating" is in reality the frequency of usage, meaning the extent of the period of time a certain region or portion of a document is displayed on the monitor. This is clearly and expressly taught by Bates throughout the Summary of the Invention thereof (Id. at C. 2, l. 35-C. 3, l. 30), and in the Description of the Preferred Embodiment thereof, from Column 4 at line 45 throughout. In fact, Bates' Claims 1 and 7 expressly recite this teaching (Id. at C. 13, ll. 6-9 and C. 14, ll. 12-15, respectively); Bates' Claim 9 expressly recites this teaching in its seventh method step clause (Id. at C. 14, ll. 48-50); Bates' Claims 11 and 12-13 expressly recite this teaching in their fourth, and second elements, respectively (Id. at C.15, ll. 15-18; C. 16, ll. 3-5 and 19-22, respectively).

Importantly, Bates fails to teach or suggest any contrast adjustment performed in response to any measured physical temperature, as claimed.

More specifically, Applicants respectfully assert that the teaching of Bates differs from embodiments of the present invention recited in Claims 1 and 10 (and their respective dependent claims). As amended herein, Claims 1 and 10 read as follows, with underlining added herein for emphasis:

1. In an electronic device having a display and a processor, a method for providing contrast adjustment for said display comprising:

a) receiving a contrast setting that is user defined via a software graphical user interface, wherein said graphical user interface comprises an interactive slide bar;

b) an ambient temperature of an environment of said display over time, said ambient temperature characterizing said environment;

c) sampling said signals and converting said signals into current temperature values;

d) based on said contrast setting and said current temperature values, computing a contrast adjustment voltage signal for maintaining said contrast setting, wherein said steps c) and d) are performed by said processor; and

e) automatically adjusting contrast of said display by applying said contrast adjustment voltage signal to said display.

10. An electronic device comprising:

a processor coupled to a bus;

a display coupled to said bus and responsive to a contrast adjustment signal;

a temperature sensing circuit for generating signals representative of an ambient temperature of an environment of said display over time, said ambient temperature characterizing said environment, and

wherein said processor automatically compensates display contrast based on said ambient temperature by performing a process comprising:

a) receiving a contrast setting that is user defined via a software graphical user interface, wherein

said graphical user interface comprises an interactive slide bar;

b) sampling said signals and converting said signals into current temperature values;

c) based on said contrast setting and said current temperature values, computing a contrast adjustment voltage signal for maintaining said contrast setting; and

d) automatically adjusting contrast of said display by applying said contrast adjustment voltage signal to said display.

As amended herein, Claims 1 and 10 recite generating signals representative of an ambient temperature of an environment of the display over time, the ambient temperature comprising a actual or physical temperature characterizing the environment of an electronic device. The embodiments recited in Claim 1 and 10 differ from the teaching of Bates, which is directed towards a symbolic use of a temperature and heating analogy for the frequency and/or time of usage of a document passage.

The contrast setting of display units in an electronic device can vary with temperature. This can hamper or otherwise adversely effect the use of the electronic device. For instance, where a user of an electronic device emerges from an air conditioned building lit only by interior lighting, outside into a warm, bright, sunny day, or from a well lit heated building into a cold winter night lit only by street lighting, the contrast setting of the device display can be hampered and/or require the user to adjust the contrast to continue convenient operation of the device. The embodiments of the present invention recited in Claims 1 and 10 are directed towards generating signals representative of an ambient temperature of an environment of the display over time, the ambient temperature comprising an physical temperature characterizing the environment of an electronic device function to automatically correct the contrast setting thereof where the ambient temperature of

the device's display operating environment changes. This can ease the operation of the electronic device and provide great convenience for a user thereof.

At no place in the cited reference can Applicants find any teaching or suggestion for the automatic correction of the contrast setting of an electronic device where the physical ambient temperature of the device's display operating environment changes, as recited in Claims 1 and 10 of the present invention. Thus, Applicants respectfully assert that Bates does not anticipate or suggest Claims 1-2, 5-6, 10, and 12-13.

Further Applicants respectfully assert, first, that the visually aging scroll bar taught by Bates for affecting contrast to display a symbolic temperature indicative only of the frequency and/or time of usage of a document section will not work to automatically correct the contrast setting of an electronic device's display where the physical ambient temperature of the display operating environment changes, as do the embodiments of the present invention recited in Claims 1 and 10.

Applicants further respectfully assert, second, that in teaching a visually aging scroll bar for affecting contrast to display a symbolic temperature indicative only of the frequency and/or time of usage of a document section expressly teaches away from the embodiments of the present invention recited in Claims 1 and 10, which are directed towards automatically correcting the contrast setting of an electronic device's display where the physical ambient temperature of the display operating environment changes.

Accordingly, Applicants further respectfully assert that Bates does not suggest the embodiments of the present invention recited in Claims 1 and 10 of the present invention.

REJECTIONS OF THE CLAIMS UNDER 35 USC 103

In the present rejection, Claims 3-4, 7-8, 11, 14, and 16-18 are rejected under 35 USC 103(a) as unpatentable over Bates in view of US Patent No. 6,433,769 to Cato (Cato). Applicants have reviewed the references cited and respectfully assert that Claims 3-4, 7-8, 11, 14, and 16-18 are patentable over Bates in view of Cato for the following rationale.

Claims 3-4 and 7-8 depend on Claim 1, Claims 11 and 14 depend on Claim 10, and Claims 17-18 depend on Claim 16, thus incorporating each of their elements. As amended herein, Claim 16 reads as follows, with underlining added herein for emphasis:

16. A palm-top computer system comprising:  
a processor coupled to a bus;  
a flat panel display coupled to said bus and  
responsive to a contrast adjustment signal;  
a temperature sensitive diode circuit for  
generating signals representative of an ambient  
temperature of an environment of said display over time,  
said ambient temperature characterizing said  
environment, and

wherein said processor automatically compensates  
display contrast based on said ambient temperature by  
performing a process comprising:

- a) receiving a contrast setting that is user  
defined via an interactive slide bar of a software  
graphical user interface displayed on said display;
- b) sampling said signals and converting said  
signals into current temperature values;
- c) based on said contrast setting and said current  
temperature values, computing a contrast adjustment



voltage signal for maintaining said contrast setting;  
and

d) automatically adjusting contrast of said display  
by applying said contrast adjustment voltage signal to  
said display.

Applicants respectfully reassert their argument above relating to Bates and relating to Claims 1 and 10, and applies them to Claim 16 (and its dependent claims) as well. In particular, Applicants respectfully assert that, first, the visually aging scroll bar taught by Bates for affecting contrast to display a symbolic temperature indicative only of the frequency and/or time of usage of a document section will not work to automatically correct the contrast setting of an electronic device's display where the physical ambient temperature of the display operating environment changes, as claimed by the embodiments of the present invention recited in Claims 1, 10, and 16.

Second, Applicants further respectfully assert that, in teaching a visually aging scroll bar for affecting contrast to display a symbolic temperature indicative only of the frequency and/or time of usage of a document section expressly teaches away from the embodiments of the present invention recited in Claims 1, 10, and 16, which are directed towards automatically correcting the contrast setting of an electronic device's display where the physical ambient temperature of the display operating environment changes.

An issue relating to a user interfacing with the electronic devices discussed above arises here in relation to Cato. Applicants respectfully point out that Claims 1, 10, and 16 all recite that the contrast setting is user defined via an interactive slide bar of a software graphical user interface displayed on the display (see underlined section of clause "a)" above in the recitation of Claim 16 at page 14). Applicants

have carefully reviewed Cato and respectfully assert that the reference does not teach or suggest using a graphical user interface (GUI) comprising an interactive slide bar to input a user's contrast setting, as recited in Claims 1, 10, and 16 of the present invention.

Rather, Cato expressly teaches including a variable resistor 206 (Cato, C. 3, ll. 16-18) for optionally varying a reference voltage to "keep a set contrast at a user's desired value" (Id. at ll. 26-27). Thus, Cato expressly teaches away from the embodiments of the present invention recited in Claims 1, 10, and 16, directed towards a user defining a contrast setting for a display using an interactive GUI slide bar thereon.

Applicants respectfully assert that, in a variety of electronic devices having a display and a processor, issues of size, related component density and weight, and costs relating to component procurement and assembly are significant issues. Such issues render it desirable to reduce weight, reduce size and concomitantly increase component density, and reduce costs. Costs can be reduced by eliminating, where possible, components that would otherwise have to be purchased. Eliminating such components can further reduce costs by simplifying assembly (e.g., the eliminated components no longer need installation during assembly).

Applicants further respectfully assert that by performing the contrast adjustment function using a software GUI as recited in Claims 1, 10, and 16, space and weight is saved because the physical components (a variable resistor) that are taught by Cato to do so are obviated. The space saved allows size reduction or the possibility of increased functionality, such as "recycling" the saved space for use with other components. Obviating the physical contrast control component, a

variable resistor, taught by Cato eliminates having to either purchase or install them, thus saving costs.

Further still, Applicants respectfully point out that, obviousness can only be established by combining or modifying the teachings of the references cited to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found in either the references themselves or knowledge generally available to one of ordinary skill in the art. MPEP § 2143.01, ¶ 3; In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Here, Applicants have reviewed both the Cato and Bates references carefully and find no teaching, suggestion, or motivation to modify the teachings therein to generate signals for automatically adjusting the contrast setting thereof to compensate for the physical ambient environmental temperature in which the display is operating, as recited in Claims 1, 10, and 16 of the present invention. Further, Cato does not cure the defects of Bates discussed above on this issue.

Bates' teachings will not work to provide the electronic device recited in Claims 1, 10, and 16 of the present invention, wherein contrast is automatically compensated for physical ambient environmental temperature in which the display is operating. With its "symbolic" temperature, Bates also expressly teaches away from these embodiments of the present invention. Cato does not cure these defects of Bates, and further, Cato expressly teaches away from the present invention on the issue of allowing a user to define the contrast setting of a display via an interactive slide bar of a software GUI displayed thereon. Further, neither

reference contains any teaching, suggestion, or motivation to combine their teachings to suggest these embodiments of the present invention.

Accordingly, Applicants respectfully assert that Bates does not suggest the embodiments of the present invention recited in Claims 1, 10, and 16 of the present invention, even in view of Cato.

CONCLUSION

By the rationale stated above, Applicants respectfully assert that Claims 1 and 6 as amended herein are allowable under 35 USC 112. Applicants also respectfully assert that, by the rationale stated above, the embodiments of the present invention as recited in Claims 1-2, 5-6, 10, and 12-13 are not anticipated by Bates, and are thus allowable under 35 U.S.C. 102(e). Further, by the rationale stated above, Applicants respectfully assert that the embodiments of the present invention as recited in Claims 3-4, 7-8, 11, 14, and 16-18 are not fairly suggested by Bates in view of Cato or any previously cited references and are thus allowable under 35 U.S.C. 103(a).

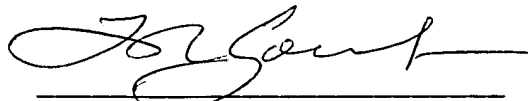
Accordingly, Applicants respectfully assert therefore that Claims 1-8, 10-14, and 16-20 are in condition for allowance. Accordingly, Applicants respectfully request that the rejections of Claims 1-8, 10-14, and 16-20 be withdrawn and that these Claims be timely allowed.

Please charge our deposit account No. 23-0085, for any unpaid fees.

Respectfully submitted,

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